

## Thermal Conductivity of Carbon Dioxide at Temperatures below 345 K

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Carbon dioxide is a potential working fluid for both refrigeration and power generation cycles. The thermal conductivity of carbon dioxide has been widely studied, but new data with low uncertainty is needed at temperatures below 295 K in the liquid and vapor regions. Measurements of the thermal conductivity of carbon dioxide are reported at temperatures from the triple point to 345 K at pressures up to 70 MPa. These measurements were made on pure carbon dioxide at vapor, liquid and supercritical conditions with an absolute transient hot-wire apparatus. The measurements clearly show the thermal conductivity critical enhancement and are in good agreement with previous accurate measurements of thermal conductivity and thermal diffusivity in the critical region.